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UML Diagram

Before:

Customer
- arrivalTime : float - departure : float - startOfServiceTime : float - arrivalType : char - departureType : char
+ Customer() + Customer(char, float) + setArrival(float) + setStartOfServiceTime(float) + setDepartureTime(float) + setCustomerType(char) + getArrivalTime() : float + getStartOfServiceTime() : float + getDepartureTime() : float + getCustomerType() : char

PriorityQueue
- SIZE : const int - numOfEvents : int - priorityQueue[ ] : Customer
+ PriorityQueue() + getParent(int) : int + getLeft(int) : int + getRight(int) : int + percolateUp(int) + percolateDown(int) + insert(Customer) + remove(Customer) + getSize() : int + isEmpty() : bool + displayQueue()

FifoQueue
- fifoQueue< > : Customer
+ FifoQueue() + isEmpty() : bool + getSize() : int + enqueue(Customer) + dequeue(Customer)

+ displayQueue()

Service
- numOfArrivals : int - lambda : int - mu : int - numOfServers : int - arrivalType : char - departureType : char - serverAvailableCount : int - idleTime : float - numOfCustomersWaited : int - *customer[ ] : Customer - priorityQueue : PriorityQueue - fifoQueue : FifoQueue
+ Service() + Service(int, int, int, int) - getNextRandomInterval(int) : float - generateArrivals(int, int, Customer) - isServerAvailable() : bool - setServerAvailableCount(int) - getServerAvailableCount() : int - processNextEvent() - processStatistics()

Statistics
- Po : float - L : float - W : float - Lq : float - Wq : float - rho : float - lambda : int - mu : int - M : int
+ Statistics() + Statistics(int, int, int) + showStatistics() - calculatePo() - calculateL() - calculateW() - calculateLq() - calculateWq() - calculateRho()

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After:

Customer
- arrivalTime : float - departure : float - startOfServiceTime : float - arrivalType : char - departureType : char - currentEventTime : float
+ Customer() + Customer(char, float) + commenseService() - setArrival(float) - setStartOfServiceTime(float) - setDepartureTime(float) - setEventTime(float) - setCustomerType(char) + getArrivalTime() : float + getStartOfServiceTime() : float + getDepartureTime() : float + getCustomerType() : char + getEventTime() : float

PriorityQueue
- QUEUE_SIZE : const int - numOfEvents : int - priorityQueue[ ] : Customer
- PriorityQueue() - getParentNode(int) : int - getLeftNode(int) : int - getRightNode(int) : int - percolateUp(int) - percolateDown(int) - insertIntoQueue(Customer) - removeFromQueue(Customer) - currentSize() : int - getMaxQueueSize() : int - isEmpty() : bool - isFull() : bool - getFront() : Customer - displayQueue()

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FifoQueue
- fifoQueue< > : Customer
- FifoQueue() - isEmpty() : bool - sizeOfQueue() : int - enqueue(Customer) - dequeue() - getBack() : Customer - displayFront() - displayBack()

Service
- numOfArrivals : int - lambda : int - mu : int - numOfServers : int - arrivalType : char - departureType : char - serverAvailableCount : int - customerArrivalIndex : int - idleTime : float - lastDepartureTimeIdle : float - nextArrivalTimeIdel : float - numOfCustomersWaited : int - *customer[ ] : Customer - priorityQueue : PriorityQueue - fifoQueue : FifoQueue - totalWaitTime : float - totalServiceTime : float - totalLengthOfSimulation : float - lastDepartureInSimulation : float
+ Service() + Service(int, int, int, int) + commenseService() - getNextRandomInterval(int) : float - generateArrivals(int, int, Customer) - isServerAvailable() : bool - isMoreArrivals() : bool - processNextEvent() - processStatistics() - insertPriorityQueue(int, int) - calculateIdleTime()

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AnalyticalModel
- Po : float - L : float - W : float - Lq : float - Wq : float - rho : float - lambda : int - mu : int - M : int
+ AnalyticalModel(int, int, int) + showStatistics() - calculatePercentIdleTime() - calculateAvgNumInSystem() - calculateAvgTimeInSystem() - calculateAvgNumInQueue() - calculateAvgWaitInQueue() - calculateRho() - factorial(int) : int